

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

- A
1. (currently amended) An electronic high intensity discharge lamp ballast ~~for a high intensity discharge lamp~~, comprising: an inverter circuit and a resonant circuit, and wherein at least one ignition capacitor is provided between the resonant circuit and the lamp.
 2. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 1 wherein two ignition capacitors are provided in parallel with each other, a first of said ignition capacitors being located physically proximate to said inverter circuit and said resonant circuit, and ~~the~~ a second of said ignition capacitors being located proximate the lamp and separated from the first ignition capacitor by a cable.
 3. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 1 wherein said inverter circuit comprises two switches and wherein means are provided for varying ~~the~~ a switching frequency of said inverter circuit.
 4. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 3 wherein said inverter circuit is operated at a low frequency during an ignition step and at a high frequency during steady state operation.
 5. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 3 wherein means are provided for regulating the lamp power during steady state operation by varying the switching frequency of the inverter.

6. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 5 wherein means are provided for monitoring lamp power by monitoring a dc link current, and wherein said switching frequency of said inverter is varied in response to an output from a current controller.

7. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 1 wherein means are provided whereby ~~in the event of~~ if ignition failure ~~fails~~ the ballast is disabled and a further attempt to ignite the lamp is made after a preset time interval.

A
8. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 7 wherein success or failure of the ignition is detected by comparing ~~the~~ a lamp current with a reference current, and wherein ~~in the event of~~ if ignition ~~succeeding~~ succeeds and the lamp current ~~being~~ is higher than the reference current, the ballast is then operated at a high switching frequency.

9. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 7 wherein when an attempt to ignite the lamp is made an ignition voltage is generated for a relatively short duration only such that even if repeated attempts are made to ignite the lamp ~~the~~ an rms lamp voltage remains below a preset value determined by safety considerations.

10. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 1 ~~including~~ further comprising means for detecting a short-circuit or open circuit condition at said lamp.

11. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 10 wherein said short-circuit and open circuit detecting means comprises means for detecting when a dc link current falls below a reference value.

12. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 10 wherein said short-circuit and open circuit detecting means is not activated during a lamp ignition step.

13. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 1 further comprising means for maintaining ~~the~~ a lamp current at a level higher than ~~its~~ a steady state level for a predetermined period of time following ignition to accelerate warming of ~~the~~ a lamp plasma.

A
14. (currently amended) An electronic high intensity discharge lamp ballast with a nominally constant dc link voltage ~~for a high intensity discharge lamp~~, comprising: an inverter circuit, a resonant circuit, and means for detecting a short circuit or open circuit condition at said lamp. rej

15. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 14 wherein said short circuit or open circuit detecting means comprises means for detecting when a dc link current falls below a reference value. rej

16. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 14 wherein delay means are provided whereby said short circuit or open circuit detecting means is not activated until a predetermined time after ignition of said lamp.

17. (currently amended) An electronic high intensity discharge lamp ballast ~~for a high intensity discharge lamp~~, comprising an inverter circuit and a resonant circuit, wherein ~~the~~ a switching frequency of the inverter circuit ~~may be varied~~ is variable for regulating lamp power in response to a monitored dc link current. rej

18. (currently amended) An electronic high intensity discharge lamp ballast ~~for a high intensity discharge lamp~~, comprising: an inverter circuit, a resonant circuit, means for disabling rej

the ballast in the event that the lamp fails to ignite in a start-up process, and means for making a further attempt to ignite the lamp after a predetermined interval. my

19. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 18 wherein success or failure of the ignition is detected by comparing the a lamp current with a reference current, and wherein ~~in the event of~~ if ignition succeeding succeeds and the lamp current ~~being~~ is higher than the reference current, the ballast is then operated at a high switching frequency.

A
end 20. (currently amended) An electronic high intensity discharge lamp ballast as claimed in claim 18 wherein when an attempt to ignite the lamp is made an ignition voltage is generated for a relatively short duration only such that even if repeated attempts are made to ignite the lamp the an rms lamp voltage remains below a preset level determined by safety conditions.

21. (new) An electronic high intensity discharge lamp ballast as claimed in claim 1 wherein an ignition frequency of said inverter circuit is less than a steady-state frequency of said inverter circuit. AL

22. (new) An electronic high intensity discharge lamp ballast as claimed in claim 14 wherein an ignition frequency of said inverter circuit is less than a steady-state frequency of said inverter circuit. Ref

23. (new) An electronic high intensity discharge lamp ballast as claimed in claim 17 wherein an ignition frequency of said inverter circuit is less than a steady-state frequency of said inverter circuit. Ref

24. (new) An electronic high intensity discharge lamp ballast as claimed in claim 18 wherein an ignition frequency of said inverter circuit is less than a steady-state frequency of said inverter circuit. Ref

Amendments to the Drawings

The attached sheet of drawings includes changes to Figure 5, formerly labeled as Figure 4. This sheet replaces the original sheet for Figure 5. Figure 5 is amended herein to identify itself as Figure 5, rather than as Figure 4.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes